

We Claim:

1. A measurement system, comprising:
  - a nebulizer that is configured to convert a sample into an aerosol;
  - a spray chamber in communication with the nebulizer, the spray
  - 5 chamber configured to output a filtered aerosol;
  - an ionization system that is configured to ionize the filtered aerosol;
  - a connection tubing comprising a first end and a second end, wherein
  - the first end is connected to the spray chamber and the second end is
  - connected to an ionization system, the connection tubing configured to
  - 10 transport the filtered aerosol from the spray chamber to the ionization system;
  - and
  - a transfer gas line in communication with the connection tubing, the
  - transfer gas line configured to introduce a gas into the connection tubing so as
  - to assist with the transfer of the filtered aerosol to the ionization system.
- 15 2. The measurement system of Claim 1, wherein the transfer gas line is
- connected to the connection tubing at an angle relative to the connection tubing.
3. The measurement system of Claim 1, wherein the angle is
- approximately 45 degrees.
4. The measurement system of Claim 1, wherein the angle ranges between
- 20 30 and 60 degrees.
5. The measurement system of Claim 1, wherein the transfer gas line is
- perpendicular with respect to the connection tubing.
6. A transfer system comprising:
  - tubing which is configured to transfer analyte to an ionizer; and
  - 25 a transfer line in communication with the tubing wherein the transfer
  - line provides a carrier for the analyte.
7. The transfer system of Claim 6, wherein the carrier is a gas.
8. The transfer system of Claim 6, wherein the carrier is argon gas.
9. The transfer system of Claim 6, wherein the carrier is helium.
- 30 10. The transfer system of Claim 6, wherein the carrier is nitrogen.

11. The transfer system of Claim 6, wherein the carrier is ammonia.  
12. The transfer system of Claim 6, wherein the transfer line is a gas line.  
13. The transfer system of Claim 6, wherein the transfer line is Teflon tubing.

5 14. The transfer system of Claim 6, wherein the transfer line has an inner diameter of 5/32 of an inch.

15. A conveyance system comprising:  
transfer tubing which is configured to transfer analyte to an ionizer;  
a gas line; and  
10 a connector that interconnects a portion of the transfer tubing with the gas line, the connector configured to inject gas into the transfer tubing.

16. The conveyance system of Claim 15, wherein the connector is a hole in the transfer tubing that mates with the gas line.

15 17. The conveyance system of Claim 15, wherein the connector is a compression fitting.

18. The conveyance system of Claim 15, wherein the connector is welded to the transfer tubing.

19. The conveyance system of Claim 15, wherein the connector is fusion welded to the transfer tubing.

20 20. The conveyance system of Claim 15, wherein the connector is a nipple.

21. The conveyance system of Claim 15, wherein the connector is a Teflon nipple.

22. A transfer system comprising:  
connector tubing which is configured to connect to the input of an  
25 ionization system; and

a gas line in communication with the connector tubing, wherein the gas line is configured to inject a gas into the connector tubing.

23. The transfer system of Claim 22, wherein the connector tubing comprises a first section which is in mechanical communication with the gas line.

24. The transfer system of Claim 23, wherein the first section comprises polytetrafluorethylene tubing.

25. The transfer system of Claim 22, wherein the connector tubing comprises a first section that is configured to connect to a spray chamber.

5 26. The transfer system of Claim 22, wherein the first section comprises perflouroalkoxy (PFA) tubing.

27. The transfer system of Claim 25, wherein the connector tubing further comprises a second section that is in communication with the first section, the second section in further communication with the gas line.

10 28. The transfer system of Claim 27, wherein the second section comprises Teflon.

29. The transfer system of Claim 27, wherein the second section is Teflon (PFA) pipe.

15 30. The transfer system of Claim 26 further comprising a compression fitting that interconnects the second section with the gas line.

31. An ionizer transport system comprising:  
tubing that is configured to connect to the input of an ionization system;

20 a gas transfer line in mechanical communication with the tubing, wherein the gas transfer line injects a carrier into the connector tubing; and a connector that interconnects the tubing with the gas transfer line.

32. The ionizer transport system of Claim 31, wherein the connector is configured to interconnect the gas transfer line at an angle relative to a portion of the tubing.

25 33. The ionizer transport system of Claim 31, wherein the connector is configured to interconnect the gas transfer line at a 45-degree angle relative to a portion of the tubing.

30 34. The ionizer transport system of Claim 31, wherein the connector is configured to interconnect the gas transfer line at an angle ranging from 30 degrees to 60 degrees relative to a portion of the tubing.

35. The ionizer transport system of Claim 31, wherein the connector is configured to interconnect the gas transfer line with tubing so that the gas transfer line is perpendicular relative to the tubing.

36. A method for transferring an aerosol through a transfer line, the method comprising adding a transfer gas to a transfer line at an angle with respect to a portion of the transfer line.

37. A method for measuring a sample in a semiconductor processing system, comprising:

converting a sample into an aerosol;  
10 filtering the aerosol;  
transferring the filtered aerosol in a transfer tube to an ionizer; and  
injecting gas into the transfer tube.

38. The method of Claim 37, wherein the act of injecting injects the gas at an angle relative to a portion of the transfer tubing.

39. The method of Claim 37, wherein the act of injecting injects the gas at a 45 degree angle relative to a portion of the transfer tubing.

40. The method of Claim 37, wherein the act of injecting injects the gas at an angle that ranges between 30 and 60 degrees.

41. A method of transferring an analyte comprising supplying a carrier gas to tubing that transfers the analyte from a spray chamber to an ionizer.

42. The method of Claim 41, wherein the act of supplying the carrier gas supplies argon gas.

43. The method of Claim 41, wherein the act of supplying the carrier gas supplies helium gas.

44. The method of Claim 41, wherein the act of supplying the carrier gas supplies nitrogen gas.

45. The method of Claim 41, wherein the act of supplying the carrier gas supplies ammonia gas.

46. The method of Claim 41 further comprising interconnecting a carrier gas line to the tubing such that the carrier gas line supplies the carrier gas.

47. A transfer system comprising:  
first means for transferring analyte to an ionization system; and  
second means for injecting a gas into the first means.
48. The transfer system of Claim 47, further comprising a third means for  
5 interconnecting the first means with the second means.
49. The transfer system of Claim 48 wherein the third means interconnects  
a portion of the first means with a portion of the second means at an angle relative to  
the portion of the second means.

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